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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,797	01/30/2002	Paul Lum	10001024	4719

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AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
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EXAMINER

SIEFKE, SAMUEL P

ART UNIT PAPER NUMBER

1743

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/058,797	<b>Applicant(s)</b> LUM ET AL.	
	<b>Examiner</b> Samuel P Siefke	<b>Art Unit</b> 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 12-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/30/02</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Group I in the reply filed on 12/21/04 is acknowledged.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1-4, 8, 9** are rejected under 35 U.S.C. 102(b) as being anticipated by Chianese (USPN 5,804,141).

Chianese discloses a reagent strip slide treating apparatus that comprises a reagent strip slide treating apparatus includes a reagent strip comprised of a plurality of chambers. A reagent passageway on the strip connects to each of the chambers and connects to a common passageway. The chambers are arranged at variable predetermined distances along the strip. A double slide is provided which is comprised of a first and a second slide spaced apart by a predetermined distance and adapted to have therebetween biological material to be treated sequentially by a plurality of reagents. A tube connects the common passageway of the reagent strip to the space between the space slides. The capsules containing reagents are provided within the

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chambers on the strip. The capsules are provided with thin walls which are adapted to burst upon the application of pressure. A press moving at a constant speed is provided to press the reagent strip and capsules in the chambers causing the capsules to burst. The spacing between the chambers determines the timing of the application of the reagents. The strip may preferably be straight, although it may be curved such as an arc or a roller may be mounted on a radial arm (abstract, fig. 1-7). Regarding claim 2 wherein the cartridge comprises a rigid core adjacent to said pliable surface and opposite the collapsor, this would be the reagent strip 10, it is rigid and aids in providing an opposite stationary force when the collapsor (roller) is rolled over the chamber. Regarding claims 9, Chianese discloses chambers 20 E and F illustrate a protocol step where two reagents are to be applied simultaneously. This commonly occurs where the two reagents cannot be premixed in advance, but have to be mixed at the time of application (col. 5, lines 8-11).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims **5-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chianese (USPN 5,804,141) in view of Aghassie et al. (USPN 6,489,171).

Chianese discloses a reagent strip slide treating apparatus that comprises a reagent strip slide treating apparatus includes a reagent strip comprised of a plurality of chambers.

Chianese does not teach a collapsor have protrusions on the surface, the collapsor being a series of plungers, checkvalves, or a self sealing membrane.

Aghassi teaches a system for applying one or more chemicals to a tissue sample. The system includes a cassette for housing a slide device, a film and an injection system (abstract). The injection system is piston for displacing the chemicals from the containers through an injection port to the tissue sample (col. 7, lines 2-5). It would have been obvious to one having an ordinary skill in the art to modify Chianese to provide the piston of Aghassi to provide the positive force to discharge the reagents sealed in the chamber because it is know for pistons to impart positive forces on structures. With respect to there being a plurality of pistons, it would have been obvious to one of ordinary skill in the art to modify Aghassi to include a plurality of pistons to rupture multiple containers in order to release multiple chemicals for testing.

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With respect to claim 5 and 6, it would have been obvious to one having an ordinary skill in the art to modify the roller of Chianese to include protrusions to aid in applying positive pressure to the chamber to break the reagent capsules.

Claim **10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chianese (USPN 5,804,141) in view of Weigl et al. (SUPN 6,409,832).

Chianese discloses a reagent strip slide treating apparatus that comprises a reagent strip slide treating apparatus includes a reagent strip comprised of a plurality of chambers.

Chianese does not teach a system of checkvalves.

Weigl teaches a microfluidic structure that comprises a system of checkvalves for allowing fluid flow in one direction only such that back flow is prevented (col. 13, lines 1-5). It would have been obvious to one having an ordinary skill in the art to modify Chianese to include the checkvalves of Weigl for only allowing fluid flow in one direction such that back flow is prevented.

Claim **11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chianese (USPN 5,804,141) in view of

Chianese discloses a reagent strip slide treating apparatus that comprises a reagent strip slide treating apparatus includes a reagent strip comprised of a plurality of chambers.

Chianese does not teach a self-sealing membrane.

Dapprich teaches a microstructure for use in biological assays and reactions. The microstructure is fabricated from a cast or molded polymer material such as

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polydimethylsiloxane (PDMS). PDMS is a self-sealing material and the walls between the self-sealing cells 12 in the microstructure function to isolated each sample and/or reagent and prevent cross contamination (col. 8, lines 59-67). It would have been obvious to one having an ordinary skill in the art to modify Chianese to include the self-sealing membrane of Dapprich in order to prevent cross contamination between reagents and also for ease of manufacturing the microfluidic structure.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel P Siefke whose telephone number is 571-272-1262. The examiner can normally be reached on M-F 7:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1700. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam P. Siefke



February 17, 2005



Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700